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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/030,359	11/06/2002	Stephane Lascaud	AB-1189 US	8637
7590 09/27/2005			EXAMINER	
D Douglas Price Steptoe & Johnson 1330 Connecticut Avenue N W Washington, DC 20036			HODGE, ROBERT W	
			ART UNIT	PAPER NUMBER
			1746	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/030,359

Applicant(s)

LASCAUD ET AL.

Examiner

Robert Hodge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 7/28/05 have been fully considered but they are not persuasive because they are not commensurate with the scope of the claims.

Applicants state that the prior art used to reject the independent claims teaches a plasticized or gelled technology and not a "dry" technology. However applicants have little to no support in their specification for the differences between the two technologies and there is no real definition provided for the supposed "dry" technology applicants state that their invention is using. The examiner is not persuaded by the statement that the prior art teaches applicant's supposed plasticized or gelled technology because the prior art still uses a solid polymer electrolyte (that is also alkaline), which is what applicants are claiming. The examiner notes that product-by-process limitations are given little to no patentable weight in apparatus claims as long as the final product in the prior can perform the same function. Therefore the added limitation of "formed by extrusion" is given little to no patentable weight in claims 1 and 18 as well as the limitation of "formed by coextrusion" in claim 14. The rejections have however been withdrawn because of applicant's amendments and the previous objections have also been withdrawn because applicants have resolved the previous discrepancies. However, upon further consideration, a new ground(s) of rejection is made in view of U.S. Patent 5,491,041 hereinafter Abraham et al.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takatera et al. in view of Abraham et al.

4. Takatera et al. teaches a solid-state electrochemical generator (secondary battery), having a positive electrode comprising graphite or acetylene black and salts of transition metals with an alkaline polymer electrolyte containing a Lithium salt and comprising a fluoropolymer in the various mass ratios, and weight percents listed in claims 1-3 (column 3, lines 33-50, column 4, lines 9-30, column 5, lines 7-45, column 8, lines 3-57 and examples 1-3 and 10). Takatera et al. also teaches that said fluoropolymer is not limited and can include: "polyvinylidene fluoride, polyvinyl fluoride, polytetrafluoroethylene, polyhexafluoropropylene, and copolymers and terpolymers derived from plural kinds of monomers selected from the group consisting of vinylidene fluoride, vinyl fluoride, tetrafluoroethylene and hexafluoropropylene" (column 5, lines 7-18), which also contains a polyether which is also not limited and is based on polyethylene oxide or polypropylene oxide (column 4, lines 9-26). Takatera et al. teaches that the positive electrode active material comprises an oxide of the following elements, but is not limited to such elements: vanadium, manganese, nickel and cobalt (column 8, line 21) and a matrix of a polymer electrolyte (column 8, lines 15-17).

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Takatera et al. also teaches that the negative electrode is a lithium electrode (column 8, line 54-56). Takatera et al. further teaches that the electrolyte comprise magnesia in the specified ratios of claims 20 and 21 (column 5, lines 43 and 47).

5. Takatera et al. does not teach the specific thicknesses of the positive electrode or the electrolyte or that the active material be in a specific proportion according to claims 9 and 10.

6. Abraham et al. teaches a Solid State Secondary Battery having an electrode with a thickness of 2.5 mil (or 63.5  $\mu\text{m}$ ), an electrolyte with a thickness of 4 mil (or 101.6  $\mu\text{m}$  which is reasonably close to applicant's limitation of 100  $\mu\text{m}$ ) and has a proportion of active material within the ranges in claims 9 and 10 (examples 4 and 5).

7. At the time of the invention it would have been obvious to a person of ordinary skill in the art to provide an electrode and electrolyte with a preferred thickness and active material proportions as taught by Abraham et al. in the Takatera et al. reference in order to provide a thin electrode and electrolyte that can be used in small applications where space is a limited commodity with an optimized proportion of active material, which will in turn make efficient use of the battery and thus have an extended battery life.

8. Claims 15-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Takatera et al. in view of Abraham et al. as applied to claims 1-14 and 18-21 above, and further in view of Padoy et al.

9. Takatera et al. does not teach that the electrolyte comprises an antioxidant.

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10. Padoy et al. teaches the use of antioxidants including but not limited to those in the phenolic family within the specified ratios of claim 16 (column 2, lines 51-62, column3, lines 23-38 and claims 1-4).

11. At the time of the invention it would have been obvious to a person of ordinary skill in the art to include phenolic antioxidants in the polymeric electrolyte as taught by Padoy et al. in the Takatera et al. in order to prevent "yellowing" or otherwise known as the formation of free radicals in the electrochemical reaction which would in turn cause the rapid deterioration of the layers associated with the electrolyte and thus cause the battery to fail prematurely.

### ***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Hodge whose telephone number is (571) 272-2097. The examiner can normally be reached on 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RWH 9-19-05

  
**FRANKIE L. STINSON**  
**PRIMARY EXAMINER**  
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